

What is Claimed is:

1. A skimmer for removing hydrocarbon and metal chip contaminants from a body of coolant, the skimmer comprising:
 - a) a frame structure for positioning above a body of coolant;
 - b) an endless tube trained partially within said frame structure and defining a travel path, said path having a first section within said body of coolant and a second section out of said body of coolant;
 - c) a magnet disposed within said tube;
 - d) a drive system mounted to said frame structure and operatively coupled to said tube for powering said tube into and out of said body of coolant along said travel path;
 - e) a wiper connected to said frame structure at a position along said travel path, wherein said wiper is positioned adjacent to said tube such that said wiper will wipe hydrocarbon and metal chip contaminants carried by said tube as said tube is in motion; and
 - f) a receptacle delineating a collection space positioned below said wiper to receive wiper removed hydrocarbon and metal chip contaminants.
2. The skimmer of claim 1 further comprising a plurality of magnets disposed within said tube in a spaced relationship.
3. The skimmer of claim 1 further comprising:
 - a) a plurality of magnets disposed within said tube; and
 - b) a plurality of spacers disposed within said tube, wherein each of said plurality of spacers is disposed between two of said plurality of magnets.
4. The skimmer of claim 3 wherein each of said plurality of spacers is constructed of a material selected from the group consisting of wood, plastic and metal.

5. The skimmer of claim 1 further comprising:
 - a) a bracket mounted to said frame structure; and
 - b) a shaft seal connected to said bracket and disposed between said wiper and said bracket;
 - c) wherein said seal maintains said wiper in an essentially fixed position along a longitudinal axis of said tube.

6. The skimmer of claim 1 wherein said receptacle defines a hole for draining hydrocarbons collected within said receptacle.

7. The skimmer of claim 1 further comprising a series of guides successively mounted to said frame structure to define a travel path of said tube within said frame structure.

8. The skimmer of claim 1 further comprising a housing mounted to said frame structure, said housing comprising said drive system and a series of guides defining a travel path of said tube within said housing.

9. The skimmer of claim 1 further comprising a perforated plate mounted above a bottom surface of said receptacle.

10. The skimmer of claim 1 further comprising a second wiper connected to said frame structure to remove accumulations of metal chips carried by said tube prior to said tube contacting said first wiper.

11. A method of removing hydrocarbon and metal chip contaminants from a body of water, said method comprising the steps of:

- a) positioning a plurality of magnets with an endless tube in spaced apart relationship;
- b) locating said endless tube within a drive system mounted to a frame structure

and thereby positioning a portion of said tube in a body of coolant;

c) operating said drive system to cause said endless tube to travel on a descending path into said body of coolant, thereby causing hydrocarbons and chips to collect on an outer surface of said tube, wherein said chips are magnetically joined to said plurality of magnets on said outer surface of said tube;

d) continuing to operate said drive system to bring said tube on an ascending path to a wiper, said wiper connected to said frame structure and positioned adjacent to said tube;

e) wiping hydrocarbons and chips adhering to said outer surface of said tube by passing said tube by said wiper; and

f) collecting said wiped hydrocarbons and chips that fall by gravity into a receptacle positioned below said wiper.

12. The process of claim 11 further comprising performing the wiping step on a generally horizontal section of the tube.

13. The process of claim 11 further comprising the step of positioning said wiper around the outer surface of the tube and along a section of the tube prior to the descending path of the tube, wherein said wiper is an annular wiper.

14. The process of claim 11 further comprising the step of separating by gravity the hydrocarbons from the chips that collect in said receptacle.

15. An apparatus for removing oil and metal chips contaminants from the surface of a body of coolant, the skimmer comprising:

- a) a frame structure for positioning above a body of contaminated coolant;
- b) a housing mounted to said frame structure;
- c) an endless tube trained within said frame structure and having a descending reach within said body of coolant and an ascending reach out of said body of coolant;
- d) a plurality of magnets disposed within said tube in a spaced relationship;

- e) a drive system mounted to said frame structure and operatively coupled to said tube for powering travel of said tube into and out of said body of coolant along a travel path;
- f) an annular wiper connected to said frame structure and along an ascending travel path relative to said body of coolant, wherein an interior surface of said annular wiper is positioned adjacent to an outer surface of said tube; and
- g) a receptacle delineating a collection space positioned to receive gravity feed oil and metal chip contaminants that are removed by said annular wiper.

16. The apparatus of claim 15 further comprising a plurality of spacers disposed within said tube, wherein each of said plurality of spacers is disposed between two of said plurality of magnets.

17. The apparatus of claim 16 wherein each of said plurality of spacers is constructed of a material selected from the group consisting of wood, plastic and metal.

18. The apparatus of claim 15 further comprising a bracket mounted to said frame structure, a shaft seal connected to said bracket and disposed between said wiper and said bracket, wherein said seal maintains said wiper in an essentially fixed position along a longitudinal axis of said tube.

19. The apparatus of claim 15 wherein said receptacle comprises a drain for removal of hydrocarbon material collected within said receptacle.

20. The apparatus of claim 15 further comprising a series of guides successively mounted to said frame structure to define a travel path of said tube within said frame structure.

21. The apparatus of claim 15 further wherein said housing comprises said drive system and a series of guides defining a travel path of said tube within said housing.

22. The apparatus of claim 15 further comprising a second annular wiper connected to said frame structure along an ascending travel path relative to said body of water to wipe accumulations of metal chips carried by said tube prior to said tube contacting said first annular wiper.

23. The apparatus of claim 22 wherein said second annular wiper comprises a ring having a center axis and a plurality of spokes extending radially from said ring toward said center axis.

24. The apparatus of claim 22 wherein said second annular wiper comprises a flat washer.

25. The apparatus of claim 22 wherein said second annular wiper comprises a ring having a center axis and a plurality of brush bristles extending radially from said ring toward said center axis.

26. The skimmer of claim 15 further comprising a perforated plate mounted above a bottom surface of said receptacle, wherein said perforated plate block chips from falling to said bottom surface of said receptacle.

27. The skimmer of claim 15 wherein said receptacle comprises a decanter for separating hydrocarbons from machine tool coolant, wherein said decanter has a first port for removing hydrocarbons.